

Attorney Docket No. RESP:111US  
U.S. Patent Application No. 10/611,329  
Reply to Office Action of November 14, 2007  
Date: January 9, 2008

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims:**

Claim 1 (canceled)

Claim 2 (previously presented):                   A computer based method for determining whether biometric samples are from a same source, comprising the steps of: comparing a first vector from a first biometric sample with a second vector from a second biometric sample with a general purpose computer, wherein said first and second vectors have at least one biometric feature; and, determining by means of said general purpose computer whether said first and second biometric samples are from said same source, wherein the first vector and the second vector represent points in multidimensional space.

Claim 3 (currently amended):                   The computer based method of claim [[1]] 2, wherein clustering of the first vector with the second vector indicates that the first biometric sample and the second biometric sample are from the same source.

Claim 4 (previously presented):                   A computer based method for determining whether biometric samples are from a same source, comprising the steps of: comparing a first vector from a first biometric sample with a second vector from a second biometric sample with a general purpose computer, wherein said first and second vectors have at least one biometric feature; and, determining by means of said general purpose computer whether said first and second biometric samples are from said same source, wherein differences in clustering distance between the first vector and the second vector indicate that the first biometric sample and the second biometric sample are from different sources.

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Claim 5 (canceled)

Claim 6 (currently amended):                   The computer based method of claim [[5]] 4, wherein said first and second biometric samples are selected from the group consisting of handwriting samples, voice samples, face geometry samples, fingerprint samples, hand geometry samples, iris samples, retinal samples, vein samples, and voice samples.

Claim 7 (currently amended):                   The computer based method of claim [[5]] 4, wherein the first biometric sample and the second biometric sample are handwriting samples.

Claim 8 (previously presented):               A computer based method for determining whether biometric samples are from a same source, comprising the steps of: comparing a first biometric sample with a second biometric sample with a general purpose computer, wherein said first and second biometric samples form at least one cluster of at least one vector based on feature similarities between said first and second biometric samples; and, determining by means of said general purpose computer whether said first and second biometric samples are from said same source, wherein said at least one cluster is a composite based on a model for measuring the distance between a first binary feature vector and a second binary feature vector.

Claim 9 (original):                          The computer based method of claim 8, wherein said model for establishing individuality is selected from the group consisting of an identification model and a verification model.

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Claim 10 (previously presented): A computer based method for determining whether biometric samples are from a same source, comprising the steps of: comparing a first biometric sample with a second biometric sample with a general purpose computer, wherein said first and second biometric samples form at least one cluster of at least one vector based on feature similarities between said first and second biometric samples; and, determining by means of said general purpose computer whether said first and second biometric samples are from said same source, wherein the first biometric sample and the second biometric sample are handwriting samples and said at least one cluster is a composite based on a model for measuring the distance between a first binary feature vector and a second binary feature vector and wherein the accuracy of said model is measured by calculations involving features selected from the group consisting of micro-features, macro-features and a combination of micro- and macro-features.

Claim 11 (original): The computer based method of claim 10, wherein the first binary feature and the second binary feature are selected from the group consisting of a conventional feature and a computational feature.

Claim 12 (original): The computer based method of claim 10, wherein the first binary feature and the second binary feature are a conventional feature selected from the group consisting of arrangement, class of allograph, connection, design of allographs (alphabets) and their construction, vertical dimension, horizontal dimension, slant, slope, intraword spacing, interword spacing, abbreviation, baseline alignment, initial stroke, terminal stroke, presence of punctuation, style of punctuation, location of punctuation, embellishment, legibility, writing quality, line continuity, line quality, pen control, arched writing movement, angular writing movement, interminable writing movement, natural variation, natural consistency, persistency, lateral expansion, and word proportions.

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Claim 13 (original):                   The computer based method of claim 10, wherein the first binary feature and the second binary feature are a computational feature selected from the group consisting of a micro-feature and a macro-feature.

Claim 14 (original):                   The computer based method of claim 13, wherein the computational feature is a micro-feature selected from the group consisting of gradient, structural and concavity attributes.

Claim 15 (original):                   The computer based method of claim 13, wherein the computational feature is a micro- feature of a character level parameter.

Claim 16 (original):                   The computer based method of claim 13, wherein the computational feature is a macro- feature selected from the group consisting of entropy of gray values, gray level binarization threshold, black pixels, interior contours, exterior contours, vertical slope, horizontal slope, negative slope, positive slope, stroke width, height and slant.

Claim 17 (original):                   The computer based method of claim 13, wherein the computational feature is a macro- feature selected from the group consisting of a document parameter, a paragraph parameter, and a word level parameter.

Claim 18 (canceled)

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Claim 19 (currently amended): A computer-readable medium having stored thereon a plurality of instructions for biometric analysis, wherein the plurality of instructions, when executed by a processor, cause the processor to: compare a first vector from a first biometric sample with a second vector from a second biometric sample; and determine whether said first and second biometric samples are from a same source, wherein said first and second vectors have at least one biometric feature and the first vector and the second vector represent points in multidimensional space.

Claim 20 (original): The apparatus of claim 19, wherein the computer-readable medium is a CD-ROM.

Claim 21 (currently amended): A computer based system for determining whether biometric samples are from a same source, said system comprising: means for receiving a propagated computer data signal transmitted via a propagation medium; and, a processor, wherein the propagated computer data signal comprises a plurality of instructions for biometric analysis, wherein the processor is arranged to execute the plurality of instructions to compare a first vector from a first biometric sample with a second vector from a second biometric sample and to determine whether said first and second samples are from said same source, wherein said first and second vectors have at least one biometric feature, the first vector and the second vector represent points in multidimensional space and said means for receiving and said processor are disposed in at least one specially programmed general purpose computer.

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Claim 22 (previously presented): A computer based method of handwriting analysis, comprising the steps of:

calculating a first metric from a first vector having at least one feature from a first handwriting sample with a computer;

calculating a second metric from a second vector having at least one feature from a second handwriting sample with said computer;

calculating a distance in two-dimensional feature space between the first and second metrics with said computer; and,

determining by means of said computer whether said first and second handwriting samples are from a same source based on said distance.